

HUNTING THE ELUSIVE ORCHIDACEAE

THE EXPEDITION WOULD TAKE HER DEEP INTO THE FOREST TO PLACES FEW PEOPLE HAD EVER SEEN — PLACES WHERE SHE MIGHT FIND RARE SPECIES THAT HAD ELUDED HER FOR YEARS.

BY ELLEN HOROWITZ

PHOTO ILLUSTRATION WITH ORCHID PHOTO BY JESSE WARRADO



My eye caught notice of an orchid hunt in the Montana Native Plant Society newsletter: “Highest concentration of orchid species in Montana . . . Hike requires a stream crossing and some bushwhacking through an unstable landslide area. . . Expect a long-but-rewarding day.”

I’m an orchid hunter. I had to go. At the time—three years ago—I’d been avidly pursuing orchids for roughly a decade. My addiction to looking at and identifying wildflowers started in high school, but a craze for orchids had begun more recently, when a botanist friend showed me several rare specimens in Glacier National Park. Since that wonderful introduction, I had covered thousands of miles on foot and horseback in the woods and mountains of northwestern Montana and located 24 of the state’s 30 native orchid species. I’d seen some remarkable orchids, such as twayblades with their miniature flowers, but a few rare ones had eluded me, including the roundleaf and the sparrow’s-egg lady’s-slipper.

The night before the orchid search, I left my Flathead Valley home, drove east through the Blackfoot Valley, then camped along the Rocky Mountain Front to be closer to the 8:30 a.m. meeting place. I had not met Wayne Phillips, our trip leader, but knew of his reputation as a botanist, teacher, and author of several wildflower books. I also knew that accompanying him would be my best chance to see some of Montana’s rarest orchids.

Many people are surprised to learn that orchids grow in Montana. They associate the plants with faraway, exotic places. While it’s true that most orchids live in the moist, hot tropics, they also show up in many other environments. At least 30,000 native species have been found throughout the world, making orchids one of the largest families of flowering plants. They inhabit every continent except Antarctica and are found in nearly every type of terrain except true desert.

Orchid season in Montana begins in late April, when the first pinkish purple blooms of fairy slippers emerge in moist woodlands and mountain foothills. It ends when the

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spiraling flowers of ladies’ tresses begin to wither, usually in August.

Most Montana orchids grow around forests and near wetlands in the state’s western half. These perennials range from 3 inches to more than 3 feet tall. The individual blossoms are small but widely varied, ranging from the beautiful to the bizarre. Many people are familiar with the slipper-shaped blossoms, but orchids also resemble pixies, gargoyles, grinning elf faces, or cow heads complete with ears and horns. Some orchids have long, saberlike spurs; others are adorned with ribbonlike petals, helmets, or hoods. Just as diverse are the leaves, such as the snakeskinlike foliage of the northern rattlesnake-plantain, or the saucer-sized



Giant helleborine, or chatterbox (*Epipactis gigantea*)

PHILIP H. JOHNSON

leaves of roundleaf bog-orchids. And then there are the mysterious saprophytic orchids—known as coralroots—which have leafless stems of maroon or yellow.

In many ways, the search for orchids is the flower lover’s equivalent of elk hunting, another one of my favorite outdoors pursuits. Of course, orchid hunters carry nothing more lethal than hand lenses, cameras, and possibly, binoculars. And there’s no harvest involved, because transplanting orchids or even picking the flowers can kill the plant. But both activities require an inner drive that keeps

hunters pursuing an elusive quarry. As is the case with elk, hunting orchids can demand brutal treks over long distances, through dense forests, and up steep mountains. And few places have more demanding terrain than the orchid habitats—the locations of which I have promised not to reveal—that Phillips showed us during our great orchid hunt.

Thirty-three wildflower enthusiasts showed up on that Fourth of July weekend, most of us amateur botanists but a few professionals. After driving west a half hour from the prairie up into the Front, we stopped and walked several hundred yards down a back road where pines shaded a spring-fed hillside. It didn’t take long to locate the white flowers of mountain lady’s-slippers and the sunshine-colored blooms of small yellow lady’s-slippers. Meriwether Lewis called lady’s-slippers “mockerson flowers,” because the pouchlike lower petal resembles the traditional leather footwear. This was the first time I’d seen the two species growing side by side.

Like many orchids, lady’s-slippers do not produce pollen but are able to trick insects into performing pollination. When a bee, attracted to a nectarlike scent, alights on the pouch, it slips off the slick, slanted landing pad and winds up inside the flower. There it discovers no sweets and no easy escape. As the disappointed bee exits through a small opening at the rear of the pouch, its back becomes coated with pollen. The bee deposits the pollen on the stigma of the next nectar-scented slipper. Though older bees eventually learn to avoid these beautifully deceptive orchids, young bees are easily duped.

We drove to our next stop, where Phillips led us on a mile-long walk. The prairie was studded with yellow, white, purple, and pink flowers of midsummer. It was a beautiful setting but seemed too arid for orchids. Then we saw an oasis of willows and aspens, and I knew that moisture—and orchid habitat—was nearby. We leaped across the grassy banks of a small creek and continued walking into a lush meadow. Someone spotted a group of 3-foot-tall giant helleborine orchids. It was one of the species on my “must-see” list.

Montana has no orchids listed as state or federally threatened or endangered, but the giant helleborine is considered rare. Previously I’d seen the foliage of this elusive

CLOCKWISE FROM TOP LEFT: DAVID ANDERSON; MARK LAGERSTROM; TOM FORWOOD; STEVE AKE; DAN TYLOR; D. LINNELL BLANK; ANGE KIMMEL; DAVID ANDERSON



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TROPHY HUNTERS For centuries, people have considered orchids the most exotic and valuable of the flowering plants. In Victorian England, collectors hired orchid hunters to scour the world to find rare and beautiful specimens. Today, the sale and trade of wild orchids is prohibited by international law. Because even picking the flowers can kill the plant, biologists recommend photographing orchids as a way to safely “harvest” your discovery. Among the Montana species most valued by orchid fans: 1. northern rattlesnake-plantain (*Goodyera repens*); 2. mountain lady’s-slipper (*Cypripedium montanum*); 3. spotted coralroot (*Corallorhiza maculata*); 4. roundleaf rein-orchid (*Habenaria orbiculata*); 5. calypso orchid, or fairy slipper (*Calypso bulbosa*); 6. Pacific coralroot, (*Corallorhiza mertensiana*); 7. bog rein-orchid, (*Habenaria dilatata*); 8. northern green rein-orchid (*Platanthera hyperborea*).

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MONTANA BEAUTIES 1. Small yellow lady's-slipper (*Cypripedium parviflorum*); 2. striped coralroot (*Corallorhiza striata*); 3. heartleaf tway-blade (*Listera cordata*). Facing page: New coralroots grow in a recently burned area of the Big Belt Mountains.



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orchid, but never one in bloom (the floral equivalent of finding elk tracks, which says you're at the right place but at the wrong time). Phillips explained that the orchid's common name, chatterbox, comes from the flower's hinged lower lip, which quivers when touched or shaken by the wind. I viewed them through my binoculars, since they were on the far side of a deep creek. My 10X field glasses magnified the fine details of the pinkish purple and greenish flowers, which resemble elfin characters with mouths agape.

By noon we'd seen a half-dozen species, including white bog orchids, which have a fragrance so delicate that I stop for a whiff whenever I see them. When we returned to the vehicles, half the group called it a day.

But the rest of us were ready for more. We continued west, driving up toward the mountains. At a roadside pull-off, Phillips led us a short distance into the woods, and there we saw yet another rare Montana species (and another one new to my life list)—the roundleaf orchid. A mossy seep nurtured hundreds of these exquisite dainties. I was transfixed by their tiny, tropical-looking pink-, white-, and magenta-spotted flowers, which seemed out of place in the pine forest ecosystem.

Unique among orchids, the roundleaf is the sole plant in the genus *Amerorchis*. These orchids grow only in the northern latitudes of North America and are far more common in Canada and even Alaska than Montana. I felt privileged to observe up

close what may be one of the plant's southernmost populations.

Phillips told us that many wild orchids are so intricately connected to microscopic fungi in the soils where they sprout and grow that they don't survive transplanting. Some species die even when their flowers are plucked from the ground, because the tug damages the roots. I wasn't surprised to learn that such remarkable plants were also so delicate and vulnerable to disturbance.

Our group's next quarry was the rare sparrow's-egg lady's-slipper—the orchid I most wanted to see. To find one, Phillips told us, we'd have to work for it. The species has been documented in only a few Montana locations, so the chance of stumbling across one was remote. That was enough to scare off sev-

eral more of our group, but ten intrepid orchid hunters remained. We began hiking down a steep bank to a creek crossing. I used my walking sticks to catapult to a midstream gravel bar then to the far bank. We maneuvered through ankle-twisting river rocks and worked our way back into the woods, bypassing clusters of mountain lady's-slippers. We were no longer stopping to look at every orchid we saw unless it was a new find. Then someone from the back of the line shouted, "Calypso orchid." I wondered if it was just a ploy to get the rest of us to slow down. Phillips had told us the calypso orchid, or fairy slipper, generally blooms much earlier in the year. But when the group went back to look, there it was, the 13th species of the day. Phillips said the higher elevation and the cool, shady environment had created springtime conditions in midsummer.

Encouraged, we continued our search for the sparrow's-egg lady's-slipper. Phillips led us up a ridge, then over tangles of downed lodgepole pines and fallen spruce. I have no idea how long we hiked or what distance we covered, but I know we were so deep in the forest I would not have been surprised to see a trophy bull elk. When we finally reached a place where soggy moss covered the ground and towering spruce kept the woods dark and

cool, I began to sense we were getting close.

Phillips instructed us to spread out so that we could cover more territory. We moved slowly and deliberately, scanning the ground. Then Phillips saw one of the orchids, though it had not yet opened. Still, the plant helped the rest of us know what to watch for. After inching along another 15 yards, eyes raking every square inch of ground for a telltale leaf or blossom, I spied what I'd so hoped to see—a sparrow's-egg lady's-slipper in full bloom. Phillips signaled the others to gather around

the orchid, which was illuminated by sunlight filtering through the trees. We spoke in hushed tones, as though in a cathedral. In fact, we were in a sacred place, one where we all felt reverence and awe.

I felt immense satisfaction seeing the rare orchid and enormous gratitude to Phillips for sharing his secret place. I knew I would likely never return to that site and realized I would probably never see another sparrow's-egg lady's-slipper. Certainly I was glad to have added a checkmark to my orchid list. But more important was knowing that I'd experienced the hunt of a lifetime. 🐾

Learn more about orchids at the Montana Native Plant Society website: umt.edu/mnps. Among the guidebooks for identifying orchids: Northern Rocky Mountain Wildflowers, by Wayne Phillips (Falcon Press); Wildflowers of Montana, by Donald Schiemann (Mountain Press); Forest Wildflowers, by Dee Strickler (Falcon Press); and Wildflowers of Glacier National Park, by Shannon F. Kimball and Peter Lesica (Trillium Press).

The Orchid Thief, by Susan Orleans, provides thrilling accounts of the dangerous and illegal world of wild orchid collecting years ago. An excerpt: "Dozens of hunters were killed by fever or accidents or malaria or foul play. Others became trophies for headhunters or prey for horrible creatures such as flying yellow lizards and diamondback snakes and jaguars and ticks..."



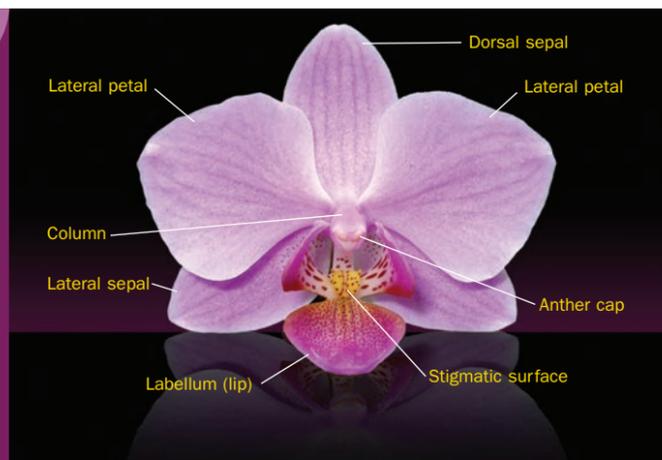
Sparrow's-egg lady's-slipper (*Cypripedium passerinum*)

NICK RUCCO

RECOGNIZING ORCHIDS

All orchid flowers are bilaterally symmetrical—that is, the right and left halves are identical. Each flower consists of three sepals and three petals. The two lateral petals are mirror images of each other. The third petal, called the labellum, or lip, is usually showier and more colorful. Its function is to attract bees, hummingbirds, and other pollinators. The stigmatic surface is where the pollinators deposit small masses of pollen grains, known as pollinia.

The fingerlike structure in the middle, known as the column, fuses the reproductive organs: the stigma (female) and stamens (male). The anther cap is where the orchid stores pollinia.



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